

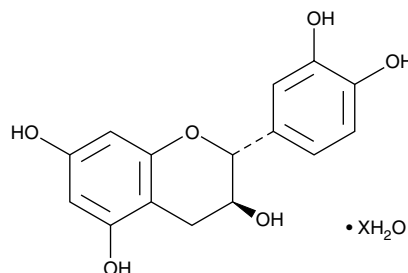
# Product Information



## (+)-Catechin (hydrate)

Item No. 70940

<b>CAS Registry No.:</b>	225937-10-0
<b>Formal Name:</b>	2R-(3,4-dihydroxyphenyl)-3,4-dihydro-2H-1-benzopyran-3S,5,7-triol, hydrate
<b>Synonyms:</b>	D-(+)-Catechin; Catechuic Acid; Cyanidol
<b>MF:</b>	C <sub>15</sub> H <sub>14</sub> O <sub>6</sub> • XH <sub>2</sub> O
<b>FW:</b>	290.3
<b>Purity:</b>	≥98%
<b>Stability:</b>	≥2 years at 4°C
<b>Supplied as:</b>	A crystalline solid
<b>UV/Vis.:</b>	λ <sub>max</sub> : 230, 280 nm



### Laboratory Procedures

Catechin is a polyphenolic flavonoid which has been isolated from a variety of natural sources including tea leaves, grape seeds, and the wood and bark of trees such as acacia and mahogany. For long term storage, we suggest that catechin be stored as supplied at 4°C. It should be stable for at least two years.

Catechin is supplied as a crystalline solid. A stock solution may be made by dissolving the catechin in an organic solvent purged with an inert gas. Catechin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of catechin in these solvents is approximately 100, 50, and 100 mg/ml respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of catechin can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of catechin in PBS (pH 7.2) is approximately 1.6 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Catechin is a more potent antioxidant than ascorbate or  $\alpha$ -tocopherol in certain *in vitro* lipid peroxidation assays.<sup>1</sup> Catechin inhibits the free radical-induced oxidation of isolated LDL by AAPH.<sup>2</sup> It has also been reported to act as an inhibitor of COX-1 with an IC<sub>50</sub> value of about 80  $\mu$ M.<sup>3</sup> Catechin and other related proxyandidin compounds have antitumor activity when tested in a two-stage mouse epidermal carcinoma model employing topical application.<sup>1</sup>

### References

1. Zhao, J., Wang, J., Chen, Y., *et al.* Anti-tumor-promoting activity of a polyphenolic fraction isolated from grape seeds in the mouse skin two-stage initiation-promotion protocol and identification of procyanidin B5-3'-gallate as the most effective antioxidant constituent. *Carcinogenesis* **20**, 1737-1745 (1999).
2. Frémont, L., Belguendouz, L., and Delpal, S. Antioxidant activity of resveratrol and alcohol-free wine polyphenols related to LDL oxidation and polyunsaturated fatty acids. *Life Sci.* **64**, 2511-2521 (1999).
3. Noreen, Y., Serrano, G., Perera, P., *et al.* Flavan-3-ols isolated from some medicinal plants inhibiting COX-1 and COX-2 catalyzed prostaglandin biosynthesis. *Planta Med.* **64**, 520-524 (1998).

### Related Products

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**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

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